IDEA-1857-65
Copy 8 of 11

1963

MEMORANDUM FOR : Chief, IDEALIST, OSA

SUBJECT   : U-2 Escape System

1. Review of LAC ejection seat test reports SP
084 and SP 391 and meetings with LAC engineers, [   ]   25X1A
personnel and several detachment commanders reveals the
following:

> a. The primary method of escape is to eject
>   through the canopy.
>
> b. The secondary method is to manually release
>   the canopy and then eject.
>
> c. In case of ejection seat failure the last
>   alternative is to manually release the
>   canopy and go over the side with the 40-
>   lb. survival kit attached to the man's
>   parachute harness.
>
> d. Per LAC test results in their report SP
>   391 the forces exerted on the knees when
>   contact is made with plexiglass parts of
>   the canopy not removed by the extended
>   headrest can be as high as 850 lbs. on one
>   knee. This situation compromises successful
>   ejection without injury.
>
> e. The manual release of the canopy requires
>   pulling back a handle on each side of the
>   cockpit at approximately the same time.
>   Since the right side handle is used fre-
>   quently for ground egress the pull force
>   is less than the left side handle which is
>   seldom used. This introduces the possibility
>   in an emergency of the pilot releasing the
>   right side first allowing windblast to get
>   under the canopy before the left side is
>   released which could result in the canopy
>   "hanging up" thereby making successful
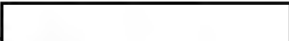>   ejection virtually impossible.

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2. Recommendations:

    a. LAC should provide means of forcibly ejecting
the canopy as the first step in the primary
ejection sequence. It is believed this
could be done with explosive bolts.

    b. Equal pull force should be assured for both
the right and left hand manual release
handles to insure a positive canopy sep-
aration if the manual method is employed.

25X1A

Aircraft Systems Division
(Special Activities)

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